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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/765,205

01/28/2004

Zhiqun He

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EXAMINER

HOANG, HIEU T

ART UNIT

PAPER NUMBER

2152

MAIL DATE

DELIVERY MODE

11/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/765,205

Applicant(s)

HE ET AL.

Examiner

Hieu T. Hoang

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/26/2007, 09/24/2007, 09/26/2006, 08/14/2004.

DETAILED ACTION

1. This office action is in response to the communication filed on 01/28/2004.
2. Claims 1-12 are pending and presented for examination.

Drawings

3. Figures 1, 2A, 2B, 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see page 12 of the specification). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 6-12 are objected to for claiming a different statutory class in dependent claims. Claims 6-12 are method claims and cannot be dependent on claim 1, which is a system claim. Claim 6 will be treated as an independent claim. It is not clear whether the applicant intends to include all limitations of claim 1 in claim 6. If that was applicant's intention, the Office would require the applicant to rewrite claim 6 to incorporate all

limitations of claim 1 in claim 6's preamble to expedite the prosecution of the application.

5. Claim 6 contains multiple limitations that lack antecedent basis (claim 6 being independent), e.g., "the inter-device interface" on line 6, "the external control system" on line 9, "the control interface unit" on line 9, "the type number" on line 13... The objection can be overcome by amending the phrase "claim 1" in the preamble of claim 6 to incorporate all the limitations of claim 1. However, the applicant is required to check for and correct all limitations that lack antecedent basis, such as "the next step" on line 27, "the second rule" on line 28, "the obtained input data information" on line 29, etc. Correction is required.

6. Claims 3, 7, 9 and 12 are objected to because of the following informalities: the claims recites: "VLAN", "VMAN". These abbreviations have to be spelled out in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-6, and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. Consider claim 1, the claim recites: "said data converting device comprises a virtual bridge device and an interface device" on lines 12-13. However, there is no clear connection or relationship between the claimed interface device and the virtual bridge device (the interface device is not further referred to in the claim).

10. For claim 1, the claim recites "the device" on line 16. There is insufficient antecedent basis for this limitation in the claim. The claim also recites "the control interface unit" on line 16-17 and then "a control interface unit" on line 25. It is indefinite whether the two control interface units are the same. Applicant is requested to check for similar errors related to antecedent basis in the remaining claims. Furthermore, the use of "said" and "the" should be consistent in the claims when referring to previously recited terms.

11. For claims 10-12, the phrase "i.e." renders the claims indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For examining purpose, no weight will be given the limitations following the phrases.

12. Claim 6 recites: "extracting relevant information from the retrieval result" on lines 17-18. It is indefinite what relevant information means since "relevant" is a relative word.

13. Appropriate correction is required.

Allowable Subject Matter

14. Claims 6-12 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and the claim objection(s), set forth in this Office action.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casey et al. (US 2003/0142674, hereafter Casey), in view of Sinn et al. (US 2004/0010519, hereafter Sinn), and further in view of Zelig et al. (US 2004/0037279, hereafter Zelig)

17. For claim 1, Casey discloses a system accessing and transmitting different data frames in a digital transmission network, for accessing and transmitting different data frames, said system comprises:

at least a user-network interface (UNI), which is used to couple with the subscriber's network (fig. 4, [0037], UNI ports, user network interface); and/or at least a network-network interface (NNI), which is used to couple with said digital transmission network to transfer data ([0037], NNI physical port); and

a data converting device (fig. 1, logical PE, provider edge), coupled with said UNIs and said NNIs, which is used to convert data formats between said UNIs or data formats between said NNIs or data formats between said UNIs and said NNIs (fig. 2, logical PE switches Ethernet transport between UNIs and NNI);

said data converting device comprises a virtual bridge device and an interface device, said virtual bridge device switches data between said UNIs and said NNIs (abstract, fig. 4, virtual bridge switching between UNIs and NNI), and

data frames of message except control messages are switched (abstract, fig. 4, virtual bridge switching between UNIs and NNI);

Casey does not explicitly disclose:

said virtual bridge device detects control messages, and transmits the control messages to control system of the device to process via the control interface unit;

However, Sinn discloses the same (fig. 19, provisioning bridge gets control information from control information system 1200 and transmit to provisioning system via an interface)

Casey-Sinn does not explicitly disclose:

said virtual bridge device comprises: an inter-device interface, which is used to input and output data frames; a virtual bridge processing unit, which couples with said

inter-device interface to process data, a database, which stores information corresponding to types of data and couples with said virtual bridge processing unit so as to process data according to said information, a control interface unit, which couples with said database and said virtual bridge processing unit so as to control them;

However, in the same field of endeavor, Zelig discloses:

said virtual bridge device comprises: an inter-device interface, which is used to input and output data frames (fig. 2, [0050], interfaces comprising of virtual and physical ports used to input and output data frames);

a virtual bridge processing unit, which couples with said inter-device interface to process data (fig. 2, forwarding engine, coupled to interfaces or ports)

a database, which stores information corresponding to types of data and couples with said virtual bridge processing unit so as to process data according to said information (fig. 2, routing table),

a control interface unit, which couples with said database and said virtual bridge processing unit so as to control them (fig. 2, [0050], [0051], a multicast server coupled to the forwarding engine and a routing table database)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Casey, Sinn, and Zelig to utilize the virtual bridge structure of Zelig in the invention of Casey to take advantage of the inherent multicast capabilities of existing network router in performing split-horizon traffic forwarding (Zelig, [0015]).

18. For claim 2, Casey-Sinn-Zelig discloses the invention as in claim 1. Casey-Sinn-Zelig further discloses said data converting device comprises a data processing and dispatching device or a virtual interface device (Zelig, fig. 2, forwarding engine), said inter-device interface connects with said data processing and dispatching device or/and said virtual interface device (Zelig, fig. 2, interfaces connected to the forwarding engine).

19. For claim 3, Casey-Sinn-Zelig discloses the invention as in claim 1. Casey-Sinn-Zelig further discloses said database comprises a virtual bridge database (Casey, [0084], [0085], VC label), a multicasting database and a forwarding database (Zelig, fig. 2, multicast table and forwarding DB); said multicasting database and said forwarding database store virtual bridge number, virtual bridge input port (Casey, [0088]), destination address input, VLAN number input, VMAN number input, virtual bridge output port; said virtual bridge database stores type number input, virtual bridge number, port number, type number output (Casey, [0051], Zelig, [0050], [0051]).

20. For claim 4, Casey-Sinn-Zelig discloses the invention as in claim 1. Casey-Sinn-Zelig further discloses said control interface unit provides an external control interface and adds, deletes, modifies and searches in said database via said control interface, and monitors said virtual bridge processing unit (Sinn, fig. 19, [0144], manually update control information).

21. For claim 5, Casey-Sinn-Zelig discloses the invention as in claim 1. Casey-Sinn-Zelig further discloses said virtual bridge processing unit processes data frames according to embedded logic and controls formats of forwarding items in the forwarding database, formats of multicasting items in the multicasting database, and formats of items in the virtual bridge database (Zelig, fig. 2, forwarding database for forwarding packets, multicast routing table formats and controls packet types).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Finn et al. US 2004/0081171.
- Finn. US 2004/0098501.
- Katz. US 2003/0026209.
- Terashita et al. US 5,844,903.
- Terashita et al. US 5,602,851.
- Mahajan et al. US 2002/0186694.
- Lasserre et al. Virtual Private LAN Services over MPLS.
- Finn et al. Bridging and VPLS.

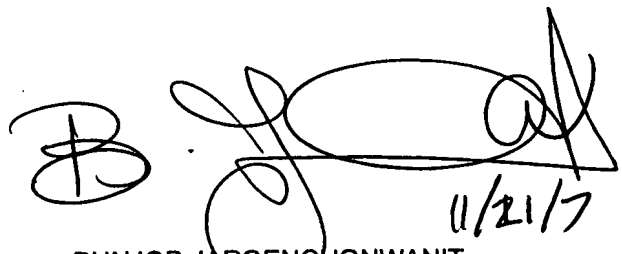
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-

1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH



11/21/17

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER